HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, Colorado 80527-2400

PATENT APPLICATION

ATTORNEY DOCKET NO. 10013275-1

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Nanette C. Jensen, et al.

Confirmation No.: 9811

Application No.: 09/855,208

Examiner: West, Jeffrey R.

Filing Date: May 14, 2001

Group Art Unit: 2857

Title: SYSTEM AND METHOD FOR DETERMINING LIGHT SOURCE CONTENT

Mail Stop Appeal Brief - Patents
Commissioner For Patents
PO Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF REPLY BRIEF

Transmitted herewith is the Reply Brief with respect to the Examiner's Answer mailed on May 17, 2006.

This Reply Brief is being filed pursuant to 37 CFR 1.193(b) within two months of the date of the Examiner's Answer.

(Note: Extensions of time are not allowed under 37 CFR 1.136(a))

(Note: Failure to file a Reply Brief will result in dismissal of the Appeal as to the claims made subject to an expressly stated new ground rejection.)

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Signature: Lindsey Corbin

Respectfully submitted,
Nanette C. Jensen, et al.
By Michael J. D'Aurelio
Michael J. D'Aurelio
Attorney/Agent for Applicant(s)
Reg No.: 40,977
Date: July 13, 2006
Telephone: 770-933-9500

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, Colorado 80527-2400

PATENT APPLICATION

ATTORNEY DOCKET NO. 10013325-1

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Nanette C. Jensen, et al.

Confirmation No.: 9811

Application No.: 09/855,208

Examiner: West, Jeffrey R.

Filing Date: May 14, 2001

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Reg No. : 40,977

Date : July 13, 2006

Telephone : 770-933-9500

CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 CFR §1.8

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Lindsey Corbin

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

In re the application of: Nanette C. Jensen, et al.	Confirmation: 9811
Application Number: 09/855,208	Art Unit: 2857
Filing Date: May 14, 2001	Examiner: West, Jeffrey R.
Title: SYSTEM AND METHOD FOR DETERMINING LIGHT SOURCE CURRENT	Docket No.: 10013325-1
	Appeal Number: _____

REPLY BRIEF UNDER 37 CFR §41.41 TO THE SUPPLEMENTAL EXAMINER'S ANSWER OF MAY 17, 2006

Mail Stop Appeal Brief—Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is a Reply Brief to the Supplemental Examiner's Answer from Examiner Jeffrey R. West, Group Art Unit 2857, of May 17, 2005, with respect to the rejection of claims 1-20 in the present patent application.

I. STATUS OF CLAIMS:

Claims 1-20 are currently pending in the present application. The Final Office Action mailed on December 28, 2004 rejected claims 1-4, 7-10, 13-16, 19, and 20 under 35 U.S.C. §103(a) as being unpatentable over US Patent 5,902,994 to Lisson et al. in view of US Patent 4,945,225 to *Gamgee* and US Patent 6,642,492 to Shiota et al. Also, claims 5, 6, 11, 12, 17, and 18 have been rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent 5,902,994 to Lisson et al. in view of US Patent 4,945,225 to *Gamgee* and US Patent 6,642,492 to Shiota et al, and further in view of US Patent 4,982,203 to Uebbing et al. Applicants appeal the decision of the Examiner in rejecting claims 1-20. For the reasons set forth herein, Applicants respectfully submit that the rejection of the pending claims 1-20 should be overturned by the Board of Patent Appeals.

II. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL:

Claims 1-4, 7-10, 13-16, 19, and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent 5,902,994 to Lisson et al. in view of US Patent 4,945,225 to *Gamgee* and US Patent 6,642,492 to Shiota et al. Also, claims 5, 6, 11, 12, 17, and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent 5,902,994 to Lisson et al. in view of US Patent 4,945,225 to *Gamgee* and US Patent 6,642,492 to Shiota et al, and further in view of US Patent 4,982,203 to Uebbing et al

III. ARGUMENT:

Claims 1-4, 7-10, 13-16, 19, and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent 5,902,994 to Lisson et al. (hereafter "Lisson") in view of US Patent 4,945,225 to *Gamgee* (hereafter "*Gamgee*") and US Patent 6,642,492 to Shiota et al. (hereafter "Shiota"). Also, claims 5, 6, 11, 12, 17, and 18 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Lisson in view of *Gamgee* and Shiota, and further in view of U.S. Patent 4,982,203 issued to Uebbing

et al. (hereafter "Uebbing"). The following discussion is in reply to the Supplemental Examiner's Answer of May 17, 2006.

It is noted that on page 3, the Supplemental Examiner's Answer cites *Gamgee* at column 1, line 61 to column 2, line 10 and states the following:

> "This section of *Gamgee* explicitly indicates that the apparatus is operative "to cause the output signal to reach the saturation level" and indicates that once the saturation level is detected, the compensating circuit will then be operative to maintain the signal below the saturation level."

Applicant respectfully disagrees. Once again, the interpretation that *Gamgee* detects the saturation reads far too much into the discussion of *Gamgee*. In particular, the statement above relays an understanding of *Gamgee* that somehow it "detects" the saturation level, and then the compensating circuit is operative to maintain signal below the detected saturation level.

Applicant wishes to restate the entire relevant portion of *Gamgee* including the above portion along with a specific explanation as to what is taught. In particular, in column 1, lines 46 through column 2, line 10, *Gamgee* states as follows:

> "According to the present invention there is provided a discriminating apparatus for discriminating a radiant information signal from a radiant background signal on which the information signal is superimposed, the discriminating apparatus including an incident radiation sensing means sensitive to an incident radiation signal comprising both the radiant information signal and the radiant background signal and operative to generate an output sensing signal of a level related to the intensity of the incident radiation signal, the sensing means having a variable operating point determining the operating characteristics thereof, and detector means responsive to the sensing signal to detect in the sensing signal a radiant information signal component superimposed on a background radiation signal component, the sensing means being operative to generate an output signal of a magnitude related to the incident radiation level up to a saturation level of the output signal, any increases in incident radiation level beyond a radiation level necessary to produce said saturation level do not produce significant changes in magnitude of the output sensing signal, the discriminating apparatus over a range of radiant background signal intensities which can be sufficient to cause the output signal to reach saturation level without adjustment of the operating point of the sensing means, the discriminating apparatus including a compensating circuit operative in response to any variation in background radiation intensity level within a desired range to adjust the operating point

of the incident radiation sensing means so as to maintain the level of the sensing signal below the saturation level."

The following will discuss the above portion of *Gamgee* in the appropriate sections. The above paragraph begins as follows:

"According to the present invention there is provided a discriminating apparatus for discriminating a radiant information signal from a radiant background signal on which the information signal is superimposed, the discriminating apparatus including an incident radiation sensing means sensitive to an incident radiation signal comprising both the radiant information signal and the radiant background signal and operative to generate an output sensing signal of a level related to the intensity of the incident radiation signal,..."

As set forth above, *Gamgee* states that the present invention provides for the discriminating apparatus that discriminates a radiant information signal from a background signal. In this respect, the information signal is superimposed on the radiant background signal. The discriminating apparatus includes the incident radiation sensing means that is sensitive to the incident radiation signal that includes both the radiant information signal and the radiant background signal. The sensing means is operative to generate the output sensing signal of a level related to the intensity of the incident radiation signal. Thus, the sensing means is operative to generate an output that is proportional to the intensity of the incident radiation that falls upon it.

Gamgee then further states:

"...the sensing means having a variable operating point determining the operating characteristics thereof, and detector means responsive to the sensing signal to detect in the sensing signal a radiant information signal component superimposed on a background radiation signal component,..."

The above portion simply states that the sensing means has a variable operating point that determines it operating characteristics. In addition, a detector means is employed to detect a radiant information signal component in the signal that was superimposed on the background radiation signal component. Thus, the sensor generates a signal from the incident radiation as described above, and a detector

means detects a radiant information signal component that was superimposed on a background radiation signal component of the signal generated by the sensor.

Thereafter, *Gamgee* further states:

> "the sensing means being operative to generate an output signal of a magnitude related to the incident radiation level up to a saturation level of the output signal, any increases in incident radiation level beyond a radiation level necessary to produce said saturation level do not produce significant changes in magnitude of the output sensing signal,"

The sensing means that generates the signal from the incident radiation is operative thus to generate an output signal of a magnitude related to the incident radiation level up to the saturation level of the output signal. Thus, the circuitry ensures that the sensor stays within its operating range. In this respect, any sensor outputs a signal that generally is proportional to the incident radiation up to its saturation point. The statement that "any increases in incident radiation level beyond the radiation level necessary to produce said saturation level do not produce significant changes in magnitude of the output sensing signal" simply sets forth the characteristics of the sensor in that once incident radiation has reached the saturation of the sensor then it will cease to produce a proportional signal.

Thereafter, *Gamgee* further goes on to state:

> "...the discriminating apparatus over a range of radiant background signal intensities which can be sufficient to cause the output signal to reach saturation level without adjustment of the operating point of the sensing means,..."

As set forth above, the discriminating apparatus is operative over a range of radiant background signal intensities. These signal intensities are sufficient to cause the output signal of the sensor to reach the saturation level without adjustment of the operating point of the sensor itself. In this respect, *Gamgee* merely points out that the discriminating apparatus has an operating range, and that the radiant background signal intensities can cause saturation of the sensor.

Finally, the above paragraph of *Gamgee* ends with the statement that:

> "...the discriminating apparatus including a compensating circuit operative in response to any variation in background radiation intensity level within a desired range to adjust the operating point of the incident radiation

> sensing means so as to maintain the level of the sensing signal below the saturation level."

As set forth above, the discriminating apparatus further includes a compensating circuit. This compensating circuit operates in response to variation in background radiation intensity levels within a desired range. In response, the compensating circuit adjusts the operating point of the sensor. Thus, as the background radiation increases, the compensating circuit causes the operating point of the sensor to change so that the level of the sensing signal is consistently maintained below the saturation level. Consequently, the sensor of *Gamgee* is maintained in a state in which the signal output is meaningful and not a result of saturation of the sensor itself. However, the compensating circuit does this by virtue of its design that operates in response to the background radiation intensity levels, not by detecting the saturation point of the sensor.

In none of the above portions of this paragraph, does *Gamgee* actually describe detecting an actual saturation level of the sensor. Rather, the operation of the sensor is adjusted by the compensating circuit based on the background radiation in order to insure that the sensor is not saturate by the input. How would the compensating circuit know the saturation level of the sensor? In fact, the saturation level of the sensor is known as a property of the sensor itself. The compensating circuit is designed to be "operative in response to the variation of the background radiation intensity level within a desired range."

Thus, the circuit does not actively detect a saturation range, but rather, it controls the operation of the sensor itself to make sure that the output of the sensor is meaningful and not the result of saturation of the sensor. Thus, there is no detection of a saturation level, the saturation level of the sensor is known at the time the circuit is designed. Therefore, *Gamgee* teaches away from actually employing a circuit to detect the saturation level as set forth in claim 1. Once again, Applicant invites the board to review the plain teachings of *Gamgee*.

In addition, on pages 3-4 in Supplemental Examiner's Answer of May 17, 2006, the Examiner further states:

> "The Examiner first asserts that the indication that the sensing means is operable "to generate an output signal of a magnitude related to the incident radiation up to a saturation level of the output signal" indicates

> that the sensor does not reach saturation since the output signal is related to the incident radiation up to such a saturation level. The output signal is only related to the incident radiation "up to" a saturation level of the output signal because any additional incident radiation past such a saturation level does not produce a corresponding related output signal since saturation has occurred and the output cannot respond as expected after reaching the saturation level."

Applicant does not dispute that *Gamgee* describes operation of a circuit that generates an output signal of a magnitude that is related to the incident radiation up to a saturation level of the sensor. In this respect, it makes sense to bias or control the operation of sensors so as to generate output up to their saturation level without being saturated. In this respect, a sensor can generate a meaningful output that is proportional to the incident radiation that fall upon it.

However, the sensors may vary in their saturation level over time, and the question here is: How do we detect what the saturation level is once it has varied over time. The mere fact that *Gamgee* teaches that a sensor is biased to output a signal up to its saturation based upon incident radiation does not translate in to a detection of the saturation level of the sensor. Thus, the observations set forth in the Supplemental Examiner's Answer of May 17, 2006 relating to the fact that the output varies up to the saturation level of the sensor does not show or suggest detecting a saturation point of the sensor.

In addition, at the bottom of claim 5 of the Supplemental Examiner's Answer of May 17, 2006, it is stated as follows:

> "The Examiner also maintains that the invention of *Gamgee* teaches a method for detecting saturation wherein a "sensing means 20 generates, in response to incident radiation 10, an output signal 21 of magnitude related to the incident radiation level up to a saturation level of the output signal 21, beyond which saturation level, any changes in incident radiation level do not produce significant changes in magnitude of the output sensing signal 21" thereby describing that saturation is achieved as indicated by the detection of an increase in incident radiation that does not produce significant changes in output."

Once again, Applicant does not dispute that the output signal is of a magnitude related to the incident radiation level and ranges up to a saturation level of the output

signal based up on the saturation of the sensor. However, Applicant asserts that there is nothing new about operating a sensor up to its saturation level as described above. Applicant asserts that operating a sensor up to its saturation level does not amount to detecting what the saturation level is. In particular, once again, the saturation levels are known properties of sensors and the sensors are biased so as to operate accordingly. However, if the saturation level of a sensor is unknown as it various over time, then the present invention provides for an approach to determine the new saturation level so that operation of the system may be adjusted accordingly.

In addition, on page 7, the Supplemental Examiner's Answer of May 17, 2006 further states:

> "With respect to the argument that "*Gamgee* is completely silent with respect to the saturation levels of sensors can vary over time", appellant has not indicated as to which claimed limitations require teaching this feature."

The statement to which the Examiner refers simply identifies the fact that *Gamgee* does not contemplate the saturation level of a sensor changing over time. If the saturation level of a sensor does not change over time, then why would one have to "detect" the saturation level repeatedly? Applicant asserts that claim 1 does recite the step of detecting the saturation level. The detection step is performed in claim 1 as the claimed invention compensates for changes in the saturation level of the sensors over time. In this respect, Gamgee does not show or suggest detecting a saturation level of a sensor as it is not contemplated that a saturation level of a sensor will not change over time.

In addition, on page 8, it is noted that a paragraph of Applicant's previous arguments was removed in the Supplemental Examiner's Answer of May 17, 2006 over and above the Examiner's Answer of December 27, 2005. In particular, it appears that both answers are identical with the exception that the paragraph on page 8 is missing. Applicant reproduces this paragraph here as follows:

> "The statement that *Gamgee* "repeats the process up until a saturation level is detected" is simply incorrect. *Gamgee* does not teach taking repeated measurements of radiation at the Examiner contends. Also, since the compensating circuit of *Gamgee* operates to minimize or eliminate the effect of background light, the sensor can operate within

> normal parameters without saturation as described. There is no need to detect saturation at the circuit is designed to avoid it. Also as Applicant has stated above, and it might be the case that the desired information signal itself may saturate the circuit due to drifting saturation levels over time. *Gamgee* does not address this potential problem."

Applicant is not aware of the reason why this paragraph was removed and the Supplemental Examiner's Answer of May 17, 2006 issued as such. In this respect, Applicant brings attention to the Board of the change made. It may be the case that this was done as the same paragraph was cited again on the next page.

As to the remaining portions of the Supplemental Examiner's Answer of May 17, 2006, Applicant asserts that the arguments presented therein appear to more or less restate the Examiner's position in the Examiner's Answer of November 9, 2005 as well as the arguments repeatedly presented by the Examiner described above. In response, Applicant merely directs the board to review the arguments presented in the Appeal Brief filed on June 17, 2005 and the Reply Brief filed on November 8, 2005, as well as the prosecution history before this Appeal was made.

Accordingly, in light of the foregoing, Applicants once again assert that the rejection of claims 1-4, 7-10, 13-16, 19, and 20 by the combination of references including *Gamgee* is improper and requests that the rejection of such claims be overturned. Also, to the extent that claims 5, 6, 11, 12, 17, and 18 are also rejected by a combination of references including *Gamgee*, Applicant requests that the rejection of these claims be overturned as well. In addition, Applicant requests that the rejection of claims 1-20 be overturned in view of the reasons offered in the Appeal Brief filed on June 17, 2005 and the Reply Brief filed on November 8, 2005.

IV. CONCLUSION:

In view of the foregoing, Applicants once again assert that claims 1-20 are in proper condition for allowance, and the Board is respectfully requested to overturn the rejections of these claims.

Authorization is provided in the documents accompanying this Reply Brief to charge Applicant's deposit account for any fees due in accordance with this submission. If any additional fees are required for this Reply to be considered, Applicant hereby authorizes the Board to charge any additional fee that may be required to deposit account 08-2025.

Respectfully submitted,

Michael J. D'Aurelio
Reg. No. 40,977

Thomas, Kayden, Horstemeyer & Risley
100 Galleria Parkway, Suite 1750
Atlanta, GA 30339
Phone: (770) 933-9500
Fax: (770) 951-0933